

Claims

1. Method to provide slots in pipes that comprises the following steps:

a) external cleaning of the pipe (1) with slag blasting to remove the protecting layer that comes from its manufacture or to remove the impurities due to its oxidation;

b) placing the pipe (1) on the receiving table by the set of motors (2) to be subsequently transferred to the cutting table (3), by means of motors (4);

c) positioning and fixation of the pipe in the cutting cabin (5) by tightening of the pneumatic rotating plate (6);

d) execution of the first sequence of slots in the pipe by laser or plasma, in a refrigerated environment, by making an initial hole with pre-defined power and subsequently opening the slot with determined length and thickness, according to the characteristics of the pipe, said slot having an initial parallel section and subsequently a divergent section;

e) angle rotation of the pipe by turning the rotating plate (6) to make the second sequence of slots, in the opposite direction of the first sequence and then successively on the whole perimeter of the pipe to meet the desired specification;

f) removal of the sludge and impurities generated by the cut by sleeves (7);

g) internal cleaning of the slotted pipe with slag jetting;

h) visual inspection of the slotted pipe to correct failures and possible imperfections with MIG soldering; and

i) painting to provide a uniform visual aspect of the slotted pipe.

2. Method according to claim 1, wherein the slots have a mixed continuous section composed of a parallel section and subsequently a divergent section, being said slots made by laser and having as its measurements the height (A) of the parallel section (10), the angle opening (B) of the divergent section (11) and the width (D) of the parallel section (10) due to the focal distance (C), in which the angle (B) of the divergent section (11) varies between zero and 90°, the height (D) of the parallel section (10) varies between 0.1 mm and 1.5 mm and the height (A) of the parallel section (10) varies between the thickness of the pipe and 2/3 of the total thickness of the pipe.

3. Method according to claim 1, made in a piece of equipment comprising a cutting table (3) with movement motors (4, 2, 17), a rotating and retention plate (6) of the pipe (1) with a cooling system by means of perforated pipe systems (13) parallel to the extension of the pipe (1) and with a protection pipe (15) with a flexible cleaning sleeve (7) and laser source (12).

4. Method according to claim 1, where slots are optionally made by means of plasma cutting equipment.